

CHAPTER 1

AN OVERVIEW OF HEALTH CARE DELIVERY IN THE
UNITED STATES

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What has happened to the health care delivery system in the United States, once considered the best system anywhere? This is a complicated question, and the answer you will hear depends on the biases of the group you are talking to. Physicians blame insurance providers, insurance providers blame employers, employees fault government regulation, and the consumers of health services blame everyone. This book is intended to help you better understand all of the important sectors of the U.S. health care system while developing an appreciation for all that needs to be done to improve health outcomes at a price those paying for health care can afford.

The health care delivery system in the United States is in a crisis situation that threatens its long-term survival. At the same time, this crisis offers tremendous opportunities for positive changes that will lead to a better system of care for all. The U.S. health care delivery system costs more than the system of any other industrialized country and yet delivers far fewer positive health outcomes to its population. Several indices of health care in America, such as infant mortality, fall below the results found in other industrialized countries, despite our extensive use of the newest and most expensive technology (Budrys, 2012).

According to Fuchs (1998) the major problems found in the U.S. health care system involve *costs*, *access*, and *health levels and outcomes*. There is also a serious problem with the *quality* of the health services received by many Americans. The *cost* of health care delivery has continued to rise for the last several years and was a leading reason why Congress recently passed the health care reform legislation titled the **Patient Protection and Affordable Care Act of 2010 (ACA)**. The ACA is a federal statute designed

LEARNING OBJECTIVES

After reading this chapter you should be able to

- Describe the major problems found in the U.S. health care delivery system.
- Describe the need for reform of the present system of health care delivery in the United States.
- Discuss how health care services are financed in the United States.
- Explain the advantages of a focus on health outcomes rather than activities in the health care delivery system.
- Demonstrate the value of preventing disease rather than mostly attempting to cure disease.

**Patient
Protection and
Affordable Care
Act of 2010 (ACA)**

Signed into law on March 23, 2010, the ACA seeks to increase the quality and availability of health care coverage for most Americans.

to increase the availability of health care coverage to most Americans and to improve the quality of that care. This new legislation attempts to solve the *access* problem for the millions of Americans who are without health insurance, and it should cause the number of uninsured people in the United States to drop dramatically in 2014. Unfortunately, this new legislation pays far less attention to *health levels and outcomes*, or wellness, in the U.S. population. We are currently dealing with an epidemic of chronic diseases, and these diseases and their complications are responsible for 80 percent of current health care costs.

Many health policy experts argue that the problems with costs, access, health levels, and quality are symptoms of a health care delivery system that is in immediate need of tremendous reform. This chapter will explore various aspects of these problems and their causes.

Health Care Costs

The cost of health care delivery has become one of the major problems confronting the United States as its health care system seeks to achieve reform. Forty years ago a typical American family spent approximately \$450 per year on health care delivery, which at that time represented 8 percent of the gross domestic product (GDP) (Fuchs, 1998). In 2010, an average American family spent \$8,402, representing over 17 percent of GDP. Carroll, Chapman, Dodd, Hollister, and Harrington (2013) argue that health care costs will continue to rise and, by the year 2020, will total \$4.6 trillion, representing almost 20 percent of GDP. This cost escalation will occur despite the fact that the new health care reform law will have been fully implemented by 2020. In a recent article, Fuchs (2013) points out that even though the escalation in health care costs has slowed in the last few years, if it returns to its prior level, the United States will be spending over 30 percent of GDP on health care in 2040. Baumol (2012) calls such rapidly rising costs **cost disease**, an economic ailment that is forcing a crisis of public choice on how limited federal dollars are spent each year. Baumol argues that education, the performing arts, and health care all suffer from cost disease due to the fact that the quantity of labor required to produce these services is very difficult to reduce. In other industries, in contrast, productivity increases have occurred, allowing the costs of products to be lowered. Baumol also notes that the price increases for health care are “real price increases”: that is, they are above the U.S. rate of inflation. This cost escalation is unsustainable and will result in this country being unable to deliver basic health care and many other goods and services in the near future unless we gain control over rising costs.

cost disease

The cost increase that occurs when the quantity of labor required by a product or service cannot be reduced, as in education, health care, and the performing arts, for example.

Table 1.1 shows expenditures for various components of the health care sector of the U.S. economy. It provides evidence of cost disease in action as we look at national health expenditures as a percentage of GDP from 1960 to 2011. It is again important to note that these price increases were real price increases; they were above the inflation rate for most of the years since 1960.

Conversely, there has been some recent good news regarding the costs of health care delivery. According to Lowrey (2012) health care spending rose only 3.9 percent in 2010, following a similarly low increase in health care costs in 2009. Also, the Centers for Medicare & Medicaid Services (2012) reports that consumers made fewer physician visits in 2010 than 2009, which resulted in very slow growth in the use and intensity of physician services. Unfortunately, this reduction in physician use was probably due to the loss of private insurance resulting from job loss and reduced personal income because of the recession of 2008.

Demographic and Population Change and Health Costs

Age, gender, ethnicity, and culture can be very useful in explaining health care concerns, along with providing the raw numbers to predict future health care problem areas. The population of the United States is aging, and there is usually a direct relationship between growing older and increasing expenditures for health care services. This may be a critical factor in the rising expenditures for health care services as the baby boom generation begins to receive Medicare benefits.

The first baby boomer reached age sixty-five on January 1, 2011, meaning that a very large cohort of Americans is now beginning to receive Medicare. In less than twenty years the Medicare rolls are expected to double.

Figure 1.1 reveals that in 2010 there were over 40 million Americans over age sixty-five in the United States, and this segment of the population is continuing to increase. In the last ten years, the overall American population increased by 9.7 percent while the number of those sixty-five years old and older grew 15.1 percent. The growth in this elderly segment of our population is going to pose tremendous challenges for our current health care delivery system, particularly in these two areas:

1. The already epidemic levels of chronic diseases and their complications will most likely become even greater in future years.
2. The difficult question of how to deal with end-of-life care that has low if any marginal value must be addressed.

Sultz and Young (2011) argue that the ramifications of treating chronic diseases are becoming a huge challenge for the U.S. health care

Table 1.1 National Health Care Expenditures: Aggregate and per Capita Amounts, Annual Percentage Change and Percentage Distribution: Selected Calendar Years 1960–2011

Item	1960	1970	1980	1990	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Amount in Billions																
National health expenditures	\$27.4	\$74.9	\$255.8	\$724.3	\$1,377.2	\$1,493.3	\$1,638.0	\$1,775.4	\$1,901.6	\$2,030.5	\$2,163.3	\$2,298.33	\$2,406.6	\$2,501.2	\$2,600.0	\$2,700.7
Health consumption expenditures	24.8	67.1	235.7	675.6	1,289.6	1,402.1	1,535.9	1,665.5	1,784.2	1,904.0	2,032.4	2,154.6	2,252.8	2,355.1	2,450.8	2,547.2
Personal health care	23.4	63.1	217.2	616.8	1,165.4	1,265.3	1,371.9	1,480.2	1,589.4	1,697.1	1,804.4	1,914.1	2,010.4	2,111.6	2,190.0	2,279.3
Government administration and net cost of health insurance	1.1	2.6	12.0	38.8	81.2	90.0	111.9	131.8	141.0	150.9	165.7	171.8	169.8	167.9	181.5	188.9
Government public health activities	0.4	1.4	6.4	20.0	43.0	46.8	52.0	53.5	53.8	56.0	62.3	68.7	72.6	75.6	79.3	79.0
Investment	2.6	7.8	20.1	48.7	87.5	91.3	102.0	110.0	117.4	126.5	130.9	143.7	153.8	146.1	149.1	153.5
Millions																
U.S. population ¹	186	210	230	254	282	285	288	290	293	295	298	301	304	307	309	311
Amount in Billions																
Gross domestic product ²	\$526	\$1,038	\$2,788	\$5,801	\$9,952	\$10,286	\$10,642	\$11,142	\$11,853	\$12,623	\$13,377	\$14,029	\$14,292	\$13,974	\$14,499	\$15,076
Per Capita Amount																
National health expenditures	\$147	\$356	\$1,110	\$2,854	\$4,878	\$5,240	\$5,695	\$6,121	\$6,497	\$6,875	\$7,255	\$7,636	\$7,922	\$8,163	\$8,417	\$8,680
Health consumption expenditures	133	319	1,023	2,662	4,568	4,919	5,340	5,742	6,096	6,447	6,816	7,158	7,416	7,686	7,934	8,187
Personal health care	125	300	943	2,430	4,128	4,439	4,770	5,103	5,430	5,746	6,051	6,360	6,618	6,891	7,090	7,326
Government administration and net cost of health insurance	6	12	52	153	288	316	389	454	482	511	556	571	559	548	588	607
Government public health activities	2	6	28	79	152	164	181	185	184	190	209	228	239	247	257	254

Investment	14	37	87	192	310	320	355	379	401	428	439	477	506	477	483	493
Average Annual Percentage Change from Previous Year Shown																
National health expenditures	10.6%	13.1%	13.1%	11.0%	6.6%	8.4%	9.7%	8.4%	7.1%	6.8%	6.5%	6.2%	4.7%	3.9%	3.9%	3.9%
Health consumption expenditures	10.5	13.4	13.4	11.1	6.7	8.7	9.5	8.4	7.1	6.7	6.7	6.0	4.6	4.5	4.1	3.9
Personal health care	10.4	13.2	13.2	11.0	6.6	8.6	8.4	7.9	7.4	6.8	6.3	6.1	5.0	5.0	3.7	4.1
Government	9.4	16.4	16.4	12.4	7.7	10.8	24.4	17.7	7.0	7.0	9.8	3.7	-1.2	-1.1	8.1	4.1
administration and net cost of health insurance																
Government public health activities	13.8	16.9	16.9	12.0	8.0	8.7	11.2	2.8	0.5	4.1	11.2	10.3	5.8	4.1	4.9	-0.5
Investment	11.7	10.0	10.0	9.2	6.0	4.3	11.8	7.8	6.8	7.8	3.5	9.7	7.1	-5.0	2.1	2.9
U.S. population ¹	1.2	0.9	0.9	1.0	1.1	1.0	0.9	0.8	0.9	0.9	1.0	0.9	0.9	0.9	0.8	0.7
Gross domestic product ²	7.0	10.4	10.4	7.6	5.5	3.4	3.5	4.7	6.4	6.5	6.0	4.9	1.9	-2.2	3.8	4.0
Percentage Distribution																
National health expenditures	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Health consumption expenditures	90.6	89.6	92.1	93.3	93.6	93.9	93.8	93.8	93.8	93.8	93.9	93.7	93.6	94.2	94.3	94.3
Personal health care	85.4	84.3	84.9	85.2	84.6	84.7	83.8	83.4	83.6	83.6	83.4	83.3	83.5	84.4	84.2	84.4
Government	3.9	3.5	4.7	5.4	5.9	6.0	6.8	7.4	7.4	7.4	7.7	7.5	7.1	6.7	7.0	7.0
administration and net cost of health insurance																
Government public health activities	1.4	1.8	2.5	2.8	3.1	3.1	3.2	3.0	2.8	2.8	2.9	3.0	3.0	3.0	3.1	2.9

Table 1.1 Continued

Item	1960	1970	1980	1990	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Investment	9.4	10.4	7.9	6.7	6.4	6.1	6.2	6.2	6.2	6.2	6.1	6.3	6.4	5.8	5.7	5.7
Percentage																
National health expenditures as a percentage of gross domestic product	5.2%	7.2%	9.2%	12.5%	13.8%	14.5%	15.4%	15.9%	16.0%	16.1%	16.2%	16.4%	16.8%	17.9%	17.9%	17.9%

Note: Numbers and percentages may not add to totals because of rounding. Dollar amounts shown are in current dollars.
¹Census resident-based information less armed forces overseas and population of outlying areas. *Source:* U.S. Bureau of the Census.
²U.S. Department of Commerce, Bureau of Economic Analysis.
Source: Centers for Medicare & Medicaid Services, n.d. tbl. 1. Data from Centers for Medicare & Medicaid Services, Office of the Actuary, National Health Statistics Group; U.S. Department of Commerce, Bureau of Economic Analysis; and U.S. Bureau of the Census.

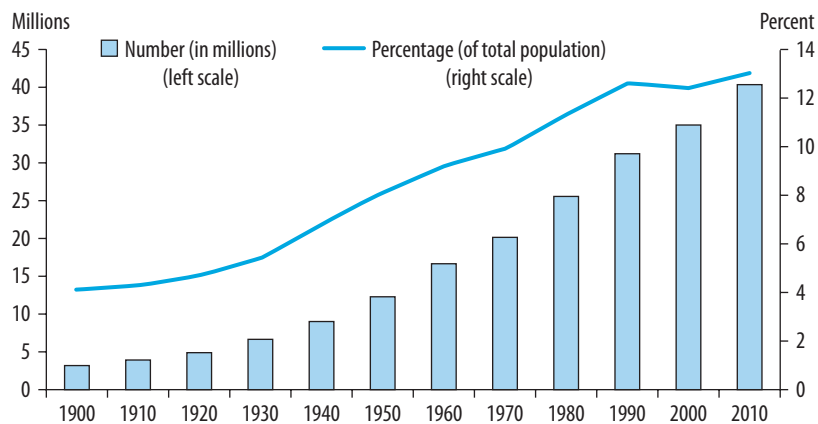


Figure 1.1 U.S. Population Aged Sixty-Five and Older, by Size and Percentage of Total Population, 1900–2010

Source: U.S. Census Bureau, 2011, fig. 2. Data from U.S. Census Bureau decennial census of population, 1900–2010.

delivery system, with very few solutions readily available. The cost burden of chronic diseases alone is causing many health policy experts to question whether the U.S. health care system can survive if costs continue to rise.

Examples of Other Health Care Systems

Every country is having difficulty dealing with cost escalation in health care services, but most countries are having greater success than the United States is with the issues of access to care and levels of health. It makes sense for us to look at how these countries have improved both access and health indices while not spending nearly as much as we do on health services delivery. There are many industrialized countries in the world that are achieving better health outcomes at a much lower cost than the United States currently is. Starr (2011) points out that during the last half of the last century, the United States became the only advanced society that did not provide universal health care. Yet, even without universal health insurance coverage, the United States spends two and a half times as much as other industrialized countries on providing health care just to its citizens who are able to access that care. The health care delivery systems in other industrialized countries have two things in common: extensive government involvement and limitations on the availability of many health care services. In many other countries, governments pay for health care services through higher taxes. In contrast, the United States has decided, for the time being, that it does not want to begin a single-payer system for health services that would be financed through higher taxes. Let's compare the U.S. health care

system to the systems in three other industrialized countries: Germany, the United Kingdom, and Canada.

Health Care in Germany

The German system of health care delivery is one of the oldest in Europe. Started by Bismarck in 1883, it makes use of a number of *sickness funds* (insurance plans) and came into being through a law that provided funds to operate health clinics. “In 2008, Germany was spending \$3,737 per person for health care services. The men were living to 76.7 and the women were living to 82 years of age” (Budrys, 2012, p. 132). These life expectancy figures are very close to the U.S. figures of 75.4 years for men and 80.4 years for women in 2007 (see Table 8.1 in Chapter Eight), but the cost of health care on a per capita basis in Germany is much lower than the nearly \$8,000 per capita spent in the United States in 2008 (Table 1.1).

In Germany, enrollment in the government-financed social insurance programs is mandatory. In this system those who work must have health insurance that is financed by both the employer and employee. The insurance fees are collected and disbursed by the 240 sickness funds. According to Budrys (2012) the German government does not actually run the health care system but does oversee the health care market.

Health Care in the United Kingdom

In 1948, the National Health Service (NHS) was formed in Great Britain and was directed to provide health care services to all residents of the country. In 2005, the United Kingdom spent only \$2,724 per capita on health care, representing 8.3 percent of the country’s GDP (Linden, 2010). There are trade-offs for spending less on health care, and the National Health System restricts access to many parts of the system. Yet despite this fact, the World Health Organization (WHO) points out that the UK health care system ranks eighteenth among the systems of 191 countries in terms of health care performance (Linden, 2010).

The UK system offers residents relatively easy access to primary care, but specialty care is rationed through the use of waiting lists. Health services are paid for mostly through individual taxes, and physician payment is capitated, while physicians in hospitals mostly hold salaried positions. This payment mechanism has resulted in physician and nurse shortages along with limited availability of acute care beds in hospitals. Despite these shortages and the resultant rationing of care, life expectancy in the United Kingdom is as good if not better than that found in the United States.

Health Care in Canada

Many health policy experts in the United States look at the Canadian health care system as a model for the reform of the U.S. health care system. In fact this system was used as an example for the United States during the failed attempt at health care reform during the Clinton administration. Because Canada is similar to the United States in so many ways, it seems natural to look to its health care system for answers to many of the most pressing health care problems in the United States.

The Canadian health delivery system was started in 1947 and is sometimes referred to as medicare (not to be confused with the U.S. system of Medicare for the elderly). It is available to all residents from birth to death and is paid for through taxes, resulting in taxes higher than those in the United States. It is a single-payer system, allowing every citizen access to hospitals and medical care while not imposing any deductibles or copayments on patients. The costs of health care delivery are restrained through a series of rationing techniques that keep physician and hospital costs in line and restrict the development and use of technology through the government's large purchasing power.

According to Feldstein (2011) this system of health care delivery has improved life expectancy while lowering administrative costs, allowing health care in Canada to command a smaller percentage of GDP and lower spending per capita than health care in the United States. Administrative costs are lower in Canada than in the United States because third-party payers are eliminated when there is only one payer, the government. Despite this cost containment, Canada's health care system would be virtually impossible to duplicate in the United States due to many U.S. citizens' concerns over big government and the power of the special interest groups involved in the U.S. insurance market.

Lower health care costs in Canada also result from a restriction on technology development that is not present in the United States. Feldstein (2011) points out that because the Canadian government would have to pay for innovation in technology by raising taxes, there is a reluctance to invest in technology that may result in only limited benefits for the population overall.

According to Feldstein (2011) the Canadian plan has two major cost-saving features:

1. Reduced administrative costs, resulting in large part from the single-payer approach.
2. Imposed expenditure limits on providers of care.

Armstrong and Armstrong (2008) point out that the Canadian health care system has also achieved reasonable access to quality health services.

As reforms to the American health care delivery system proceed over the next several years, we need to adapt and implement the positive parts of these other systems. It is interesting that in Germany, the United Kingdom, and Canada, less testing and fewer medical procedures may be part of the reason that life expectancy in these countries quite often exceeds that in the United States. Fewer medical tests and procedures may result in fewer medical errors, reducing costs and mortality. All three of these systems of health care delivery focus on using large-scale purchasing power to keep health care costs low while making services available to the entire population. Physician fees, hospital charges, and the costs of purchasing and using expensive technology are kept low by restrictions imposed by the purchaser of the services. This results in restrictions of supply and some rationing but also the elimination of many unnecessary and wasteful expenditures of low marginal value.

Evidence-Based Medicine and Health Costs

In order to improve health outcomes while also reducing the cost of health services, we must use scarce health care resources wisely. According to Schimpff (2012) a large number of medical tests and procedures currently in use cost a great deal and offer little or no value. Evaluations supported by well-documented research need to be completed on numerous medical interventions in order to determine their true value.

Other countries deliver quality health services and produce better health outcomes while also spending less on health service delivery than the United States. They have accomplished this improvement in value while reducing costs by researching the value of almost every medical procedure and applying a cost-benefit analysis to reimbursement decisions for these procedures. One important way to improve health care delivery in the United States is to ask these same questions about the medical care being delivered here. This will help the United States determine how to achieve health outcomes similar to those in other developed nations while spending less.

evidence-based medicine (EBM)

The conscientious, explicit, and judicious use of current best evidence from relevant and valid research in making health care decisions.

Evidence-based medicine (EBM) is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. According to Shi and Singh (2012), using evidence-based medicine can improve the value of medicine by curtailing the misuse and overuse of health care. It allows us to make informed choices concerning the use or nonuse of scarce health care resources. Sultz and Young (2011) point out that EBM offers the best available support for decisions in clinical

practice, management, and health policy. EBM has the capacity to improve the health of the entire population by allowing those responsible for medical care to better understand what works and what does not work in patient health care delivery.

This approach to making medical decisions relies on results from randomized clinical trials involving large numbers of participants. These evaluations are necessary on both individual and population bases so we can better understand which health services provide a benefit that justifies their cost. The tools of EBM have been developed over time but still require more work in order to expand their potential for use in all areas of health services delivery. Having research that supports informed medical decisions is increasingly relevant for dealing with the complications produced by chronic diseases and, more important, for creating programs designed to prevent chronic diseases. In other words, we need to also evaluate the value of prevention programs and see how it compares to the value of current efforts focused on treatment and cures for disease.

The most promising solution to the problem of physicians ordering useless medical tests and procedures is the development and use of **comparative effectiveness research (CER)**. CER is designed to inform health care decisions by providing evidence on the effectiveness, benefits, and harms of different treatment options. The evidence is generated from research studies that compare drugs, medical devices, tests, surgeries, and other ways to deliver health care. Weinstein and Skinner (2010) argue that CER offers a potential solution to runaway health care costs in the United States because it will help us to cut medical waste without reducing the quality of health care services.

Mushlin and Ghomrawi (2010) point out that the vast majority of countries that have reformed their health care systems are using some form of CER for deciding what should and should not be reimbursed in health services delivery. They are doing so to protect patients from potentially harmful medical tests and procedures while attempting to improve quality and tame health care costs. According to Nussbaum, Tirrell, Wechsler, and Randall (2010), the Patient Protection and Affordable Care Act includes an appropriation of an additional \$500 million a year for this type of research. This research should reduce costs by identifying wasteful medical tests and procedures and could produce \$700 billion in health care savings every year. CER will be discussed in more depth in Chapter Two.

comparative effectiveness research (CER)

Research into the relative effectiveness, benefits, and harms of different treatment options.

Technology and Health Costs

Health care organizations must learn how to adapt if they are to remain relevant as providers of choice to consumers in the future. A truly adaptable

business is able to change its behaviors, aspirations, and management systems. “Organizations lose their relevance when the rate of internal change lags the pace of external change” (Hamel, 2012, p. 95). There has been a rapid growth in technology in the United States, and this growth has moved into the area of health services delivery, increasing both productivity and costs at the same time. This rapid development and use of technology will continue, despite its extreme influence on cost escalation in health care delivery (Shi & Singh, 2012). It must be remembered that productivity is usually determined by two factors: efficiency in the use of inputs and the value that customers place on the outputs (McKinney, 2012). This applies to the improvement of health care services as there is great concern about the cost of delivery and the quality of the services received by the consumer. Improvements in productivity in health care delivery are welcomed, but the enormous escalation in the costs associated with this growth cannot be sustained in the long run.

According to Kaufman and Grube (2012), technology can help us reduce costs and improve the quality in health care if this technology is used correctly. The emergence of new technology will help to improve success rates along with producing cost reductions as it encourages the migration of health care delivery from the hospital to the outpatient clinic and ultimately to the home.

At the same time, we also have to be concerned with the effects of **moral hazard**, a concept from economics. It applies to health care because, as Budrys (2012) points out, many people are unable to resist the temptation to acquire goods and services like health care that they consider to be free to themselves, even when they do not actually need them and they know someone else will have to pay for them. This concept applies equally to the use of advanced technology, since quite often the patient does not actually see a bill for this type of purchase.

Seeking better technology will allow disruptive innovation to become the norm in how we deliver and improve health care in our country. **Disruptive innovation** occurs when resources are combined in the production process in new ways that usually allow greater value to be produced by the process. According to Christensen, Grossman, and Hwang (2009), disruptive innovation has worked well in lowering the cost and increasing the availability of products and services in the business world, and health care is ripe for this same type of innovation. The catalyst for disruptive innovation in health care could very well be public health agencies and the preventive strategies they have developed with a focus on wellness rather than illness. This is exactly what is required for our health care system to survive and deliver better quality services at lower prices. Responding to the opportunities presented by this disruption will require leadership in public health departments at the federal, state, and local levels, as the disruptive

moral hazard

A condition that exists when an individual is more likely to take risks because the costs associated with the risk are borne by another.

disruptive innovation

A new product or service that is capable of changing an existing market by improving convenience, access, and/or affordability.

innovations that are so needed in health care delivery have often been blocked by special interest groups, which tend to see change as detrimental to profits margins.

Health Care Access

The United States is the only developed country in the world that does not guarantee health care access to all its citizens. According to Starr (2011) the United States stands out among other rich nations for leaving large segments of its population without health care services, allowing the number of uninsured Americans to reach 50 million in 2010. Access to health care services in the United States has become a very complicated issue because different policymakers define access in different ways. While most politicians agree that some aspect of access is the most important issue facing our current health care system, many also believe that the provision of health insurance to the population will automatically improve the health of the population. This is clearly not the case, since there are many determinants of good health other than simply having insurance.

The question of who should receive health insurance coverage has been a controversial political issue for the last seventy years. With the passage of the Patient Protection and Affordable Care Act of 2010, most Americans will be able to get health insurance coverage as of January 1, 2014. But does the new legislation actually provide *access* to health care or simply insurance coverage for health care services? It must be emphasized again that the provision of insurance by itself does not guarantee good health. In fact it is well known that many individuals having health insurance never actually seek care from a health care provider until they become very ill. Therefore it is wrong to assume that merely providing health insurance will automatically improve the health of the country's population. Nevertheless, if more individuals have health insurance, then there is a greater opportunity to improve the health of the population. As Schimpff (2012) points out, good health care services become available only when individuals have access to those services, as they do when they have adequate health care insurance.

How should we define health care access? According to Shi and Singh (2013), *health care access* is "the ability to obtain needed, affordable, convenient, and effective personal health services in a timely manner." These authors point out that access to health care is one of the major determinants of good health. Other determinants are a person's environment, behavior, lifestyle, and heredity. To improve the health of the population it is necessary to look at all determinants of health, of which access to medical care is only one. In addition, there must also be access to health care providers and, importantly, health information.

general access issues

Problems in getting the type of care needed when it is needed.

special access issues

Problems faced by certain groups such as the poor and rural residents.

disparate population

A population with differences in health from other populations for reasons that are avoidable and unfair.

When we talk about access, we have to define the goal. Are we talking about access to health insurance, to a physician, to primary care, or to the many other determinants of good health? If a person visits a physician only to find that the physician does not have time to provide a complete discussion of the many health issues facing that person, has that person experienced access or not? It is important to define access properly in order to discover solutions.

Fuchs (1998) introduced the concept of two main categories of access, which he labeled “general” and “special.” On the one hand those individuals facing **general access issues** have the resources to pay for their health care but may have problems acquiring the care they want and need. They have health insurance but for a variety of reasons do not use their opportunity to seek medical care. For example, they may feel well and think that they don’t require health care, or they may be frightened of actually entering the health care system. On the other hand, Fuchs argues, those facing **special access issues** are usually the poor or those living in rural areas of the United States. People with special issues may have insurance but be unable to find a provider due to their location or because their provider does not accept their type of insurance. Another problem often prevalent in both urban and rural America is poverty, which quite frequently means that individuals do not have health insurance or are underinsured.

In recent years there has been an improvement in the United States in many of the health indices considered important determinants of a country’s overall health status. At the same time, a distinct group of Americans have seen their health regress. Owing to race, ethnicity, socioeconomic status, geography, gender, age, or disability status, people in this group have faced enormous problems in obtaining health insurance or finding a provider and, therefore, satisfactory health care. This group and also specific segments of it are commonly referred to as a **disparate population**. Cohen, Chavez, and Chehimi (2007) point out that the best definition of *health disparities* is provided by Margaret Whitehead, who defines these disparities as “differences in health that are not only avoidable and unnecessary but in addition unjust and unfair” (p. 31). Cohen et al. argue further that the only way to prevent health disparities is to utilize a holistic approach that pays particular attention to medical resources, quality care, and the environment where individuals live.

They also introduce the concept of the trajectory of health care disparities, diagrammed in Figure 1.2. This diagram is useful because it shows the three major determinants that contribute to the inequitable health outcomes found in a disparate population. These determinants are environmental factors, exposures and behavioral factors, and medical care factors. The environmental factors include things like discrimination and

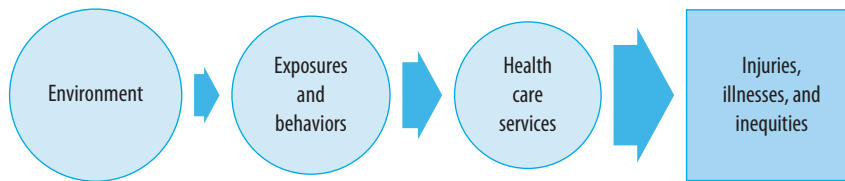


Figure 1.2 Trajectory of Health Disparities

Source: Cohen et al., 2007, p. 31.

poverty and also unemployment and restricted access to nutrition and to exercise, which quite often lead to behavioral factors such as poor diet, lack of exercise, and violence. The beauty of this diagram is that it tells policymakers and community leaders where to seek the root causes of health disparities. It also gives further credibility to the idea that access to health care alone is not usually sufficient to improve the health of the population.

Health Levels and Outcomes

Besides health care costs and access, another major concern is health levels and outcomes, including life expectancy and infant mortality, as compared to other countries. Despite the fact that the United States spends more on health care services than any other country in the world, the overall health levels of its population and the health outcomes produced by the delivery of its health services do not rank very high when compared with other countries. In fact the overall health levels of the U.S. population are at an all-time low, ranking twenty-seventh out of all industrialized countries, due to constant growth in the practice of high-risk health behaviors among all segments of the population. Although tobacco use is slowly dropping, the number of overweight and obese children and adults continues to escalate. The American diet of fast-food meals along with a preference for a sedentary lifestyle continues to provide ideal conditions for the development later in life of chronic diseases and the medical complications that typically follow them. For example, the United States is currently experiencing an epidemic of type 2 diabetes that is due primarily to poor diet, obesity, and lack of physical activity. Figure 1.3 shows the number of new cases of diabetes in the United States.

As with most chronic diseases, this epidemic of type 2 diabetes could be substantially reduced if the national system of health care focused more on diabetes prevention than on treatment of its complications. This is a clear example of how the improvement of health levels decreases the problems of cost escalation and access to health services. When people remain well, there is a lower demand for access.

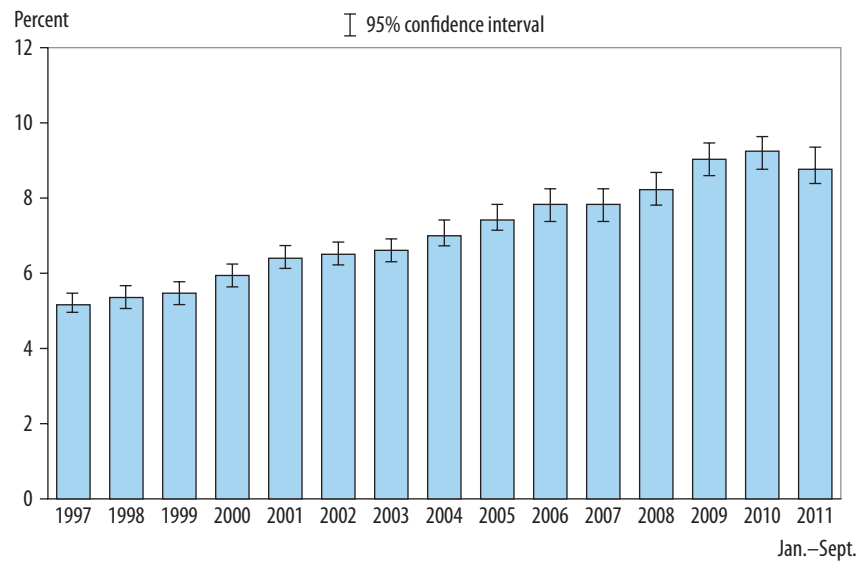


Figure 1.3 Prevalence of Diagnosed Diabetes Among U.S. Adults Aged Eighteen and Over, 1997–September 2011

Source: Centers for Disease Control and Prevention, 2013, fig. 14.1.

Numerous public health policy experts have concluded that the most important variables affecting individual health are personal behavior, social relations, the environment, economic well-being, and access to health care services (Schmitz, 2012). Unfortunately, these variables that are known to affect health seem to be ignored until an individual becomes ill. Making matters worse, once an individual becomes ill, he or she may have developed a chronic disease that cannot be cured but only treated with expensive therapies. Often as patients age and develop complications from chronic diseases, they become objects of referral from one medical specialist to another, thus increasing cost. Because there is little money to be made in preventing disease, the incentive for health care providers is to treat rather than prevent illness. As a result of disregarding the prevention of illness, we have created a fragmented system of medical care, one that begins with illness not wellness.

Champy and Greenspun (2010) point out that poor health outcomes and escalating health care costs are also a direct result of problems with efficiency and quality and that we require an effort in **reengineering** to improve how health care services are delivered. Reengineering entails disregarding previous ways of doing things in order to develop a new and process-oriented way of doing business. In health, reengineering will require looking at health care service delivery as interconnected processes designed to achieve one overall goal, good health for the population.

reengineering

Disregarding previous ways of doing things in order to develop a new and process-oriented way of doing business.

Unfortunately, special interest groups that profit from illness determine payment and reimbursement mechanisms and are reluctant to make such changes. To achieve this reengineering, we will have to determine health care outcomes based on whether or not predetermined goals of care were in fact achieved. It is reasonable to assume that most consumers are looking for good health as the most sought after outcome from the purchase of health care services.

Changing Patterns of Disease

The disease pattern in the United States has changed over the last few decades. There has been a remarkable shift in prevalence from communicable diseases to the even more dangerous and expensive chronic diseases and their complications. Table 1.2 shows the leading causes of death in the United States in 1900. The top three causes of death at that time were influenza, tuberculosis, and illnesses causing diarrhea, and all three quite frequently resulted in death because effective treatments were not available. These diseases have a short incubation period and are usually spread from person to person through close personal contact. These communicable diseases became less of a threat with the discovery and widespread use of antibiotics and vaccines along with the provision of a clean water supply.

Table 1.3 shows the leading causes of death in 2000. Chronic diseases such as heart disease, cancer, and stroke have replaced communicable diseases. These chronic diseases do not lend themselves to a cure or administration of a vaccine. They cause disability, early retirement, loss of

Table 1.2 Number of Deaths and Crude Mortality Rate for Leading Causes of Death in the United States in 1900

Cause of Death	Number of Deaths	Crude Mortality Rate per 100,000
Pneumonia and influenza	40,362	202.2
Tuberculosis	38,820	194.4
Diarrhea, enteritis, and other gastrointestinal problems	28,491	142.7
Heart disease	27,427	137.4
Stroke	21,353	106.9
Kidney disease	17,699	88.6
Unintentional injuries (accidents)	14,429	72.3
Cancer	12,769	64.0
Senility	10,015	50.2
Diphtheria	8,056	40.3

Source: Cohen et al., 2007, p. 31. Data from the National Center for Health Statistics.

Table 1.3 Number of Deaths and Crude Mortality Rate for Leading Causes of Death in the United States in 2000

Cause of Death	Number of Deaths	Crude Mortality Rate per 100,000
Heart disease	710,760	258.1
Cancer	553,091	200.9
Stroke	167,661	60.9
Chronic lower respiratory disease	122,009	44.3
Unintentional injuries (accidents)	97,900	35.6
Diabetes mellitus	69,301	25.2
Influenza and pneumonia	65,313	23.7
Alzheimer's disease	49,558	18.0
Kidney diseases	37,251	13.5
Sepsicemia	31,224	11.3

Source: Cohen et al., 2007, p. 31. Data from the National Center for Health Statistics.

quality of life, and premature death, along with an escalation in the costs of health care delivery. Moreover, according to the Centers for Disease Control and Prevention (CDC), seven out of ten deaths among Americans each year result from chronic diseases. Heart disease, cancer, and strokes account for more than 50 percent of all deaths each year (Kung, Hoyert, Xu, & Murphy, 2008). In 2005, 133 million Americans, or almost one out of every two adults, had at least one chronic illness (Wu & Green, 2005). Chronic diseases have become epidemic in the United States and show no signs of leveling off in the near future. Educational programs designed to prevent the development of poor health behaviors like tobacco use, improper diet, physical inactivity, and alcohol abuse could curb the onset of these diseases.

The Nation's Health, the monthly newspaper of the American Public Health Association, reports there is no question that our health care delivery system is facing a major challenge resulting from the obesity epidemic and the resultant monumental escalation in the prevalence of type 2 diabetes. According to the annual report titled *America's Health Rankings*, health levels in the United States are in serious trouble. The report for 2011 points out that although tobacco use is declining, it is still practiced by 17.3 percent of the population. The prevalence of obesity has increased 137 percent, rising from 11.6 percent of the population in 1990 to 27.5 percent of the population in 2011. The report also issues some frightening news concerning the epidemic of diabetes that is escalating every year. There are now over 20 million individuals with diabetes, representing 8.7 percent of the population in 2011 (Johnson, 2012). If this trend continues, the bill for this chronic disease alone will represent 10 percent of our entire budget for

health care delivery. Those living with this disease face premature mortality as well.

Reversing the epidemic of chronic diseases is going to be the most difficult problem ever undertaken by our medical care system. The only way to prevent chronic diseases and their complications is through health education programs designed to prevent the high-risk health behaviors that predispose individuals to these diseases. These educational programs are not hard to develop, but there are tremendous challenges in making these programs available to large segments of the population at convenient times and a reasonable cost. In addition, because there is no profit to be gained in the prevention of chronic diseases, much of the funding for prevention programs will need to come from the government. Health education programs are a long-term investment that is expected to present large payoffs in terms of the improved health of the population in the future.

Involving Patients and Communities in Health Care

Patient involvement is a critical component of improved outcomes in health care. In the world of rapidly developing medical information, the patient must become an active participant in the medical decision-making process. The question, of course, is how to get normally passive patients to become active in their own health care decision making. The answer seems to involve a combination of incentives and the availability of relevant medical information that is easy to understand. Härter and Simon (2011) argue that shared decision making in medicine is a process where physicians and patients work together to make the best choice of medical interventions given the available medical information. Clinicians support their patients with the necessary medical information to allow them to make their preferences known to their medical team. This shared decision making has become an absolute necessity when dealing with complicated chronic diseases and their potentially deadly consequences. Thanks to information technology, including online medical information sources such as PubMed, this is currently possible but is still not the norm.

At the same time, there is a new wellness model of health care delivery that is moving away from the individual patient to the population and from illness to wellness, requiring a very different role for the providers of health care services. The need for prevention efforts that have a chance of success will require community leadership in order to improve the health of the population. For example, Aetna, a health insurer, offers a free blood pressure unit to its health plan members who have hypertension. The only requirement is to take your blood pressure every day and call the elevated readings into a nurse manager once each month for evaluation.

Several other health insurance companies are also using nurse educators to monitor and coach patients with elevated glucose readings. Members take their own glucose readings and then receive education about diet and exercise from the nurse educator.

If we are ever to reduce the current epidemic of chronic diseases, health care providers, especially hospitals, will require new relationships with the community. More than ever before these health care providers will be expected to deliver activities designed to improve the health of the population in their community. This will become a critical factor in sustainability for many hospitals aligned with their communities. In the past, public health departments and the U.S. medical care system have had tremendous successes in improving the health and life expectancy of most Americans. Now the medical community and health departments need to partner with Americans to face the health challenge found in the expanding epidemic of chronic diseases.

Improving Outcomes with Technology

Technology can help in the improvement of health, especially in the battle against the growing epidemic of chronic diseases. Technology is now available to improve the prevention of risky behaviors in large portions of the population. Public health departments have the information necessary to help individuals prevent chronic diseases from ever developing. The problem has been that the money budgeted for public health departments has never been sufficient to develop, implement, and evaluate a massive dissemination of chronic disease information to the entire population. This is not to say that there have not been chronic disease education efforts by health departments. Many successful programs have been developed and implemented in schools, workplaces, and communities to prevent chronic diseases and their complications. But these are limited efforts. Such educational efforts need to be expanded to larger populations.

There needs to be a greater use of technology to get more health information to the population on a consistent basis in innovative ways. Mukherjee (2009) argues that in a crisis there is a need to employ technologies that allow “intelligent adjustment to major environmental shifts.” This recommendation rings true for public health departments. The chronic disease epidemic is an environmental shift that public health departments must address, and information technology must be employed in innovative ways to solve the crisis.

Mukherjee (2009) points out that the drivers of increased productivity and quality involve the transformation of systems and the nature of work, of worker skills, and of the structure of organizations. He is talking

about the development of an adaptive business strategy. These kinds of transformation are also extremely important in the improvement of the health of the individual and the community. They need to become a functional part of the new world of the improvement of the health of the population. Goldstein, Groen, Ponkshe, and Wine (2007) argue that the current health care system with a focus on medical cure must change to a population-based disease prevention system supported by an advanced health informatics system. The drivers of innovation in our health care system today involve using information technology along with chronic disease connectors (the primary care doctors who coordinate patients' health care), finding ways to reduce medical errors, and developing sophisticated consumer self-care.

According to Turnock (2009), computers and electronic communications have improved our ability to gather, analyze, and disseminate large amounts of disease surveillance data. This technological approach will need to be expanded to provide a continuous stream of information about chronic diseases, their effects on health, and prevention techniques to the entire population. Examples of doing this successfully with innovative uses of technology already exist, such as the CDC's Epi-X and eCards. Epi-X (Epidemic Information Exchange) is a system that offers web-based communications for public health professionals. This system was created to provide public health officials with current information and alerts involving the health of the public. State and local health departments and poison control centers are able to access and share preliminary health surveillance information with large numbers of health care professionals. This system supports postings of up-to-date medical information and discussions about disease outbreaks and other public health events that involve many parts of the nation and the world. Epi-X provides rapid communications whenever they are needed, and its staff are available twenty-four hours a day, seven days a week to provide consultation. The system's primary goal is to inform health officials about important events that can affect the public's health and to help them respond to public health emergencies. This type of system would be excellent for the rapid sharing of chronic disease information with the population. All that would be required is that individuals sign up for prevention messages from the CDC. They would then receive a daily email with tips on the prevention of chronic diseases and their complications.

The CDC also currently has available over one hundred free Health-e-Cards (electronic greeting cards). These cards are colorful greetings that encourage healthy living, promote safety, and can even celebrate a health- or safety-related event. This concept could also be expanded to include information about the prevention of chronic diseases along with ways of

preventing the complications that can develop later in life as a result of practicing the unhealthy behaviors that lead to chronic diseases.

A unique use of technology in health care is found in the emergence of digital games as a new tool for increasing healthy exercise. *The Nation's Health* (Krisberg, 2012) reports that a school district in Alabama is one of a number of districts using the Nintendo video game Wii Fit, which requires children to move around to earn points. The children use the game two to three times each week in their physical education period. According to teacher Audrey Gillis, the children don't even realize that they are exercising, and she reports that some younger children actually began to cry when they found out that it was not their Wii day.

The Nation's Health (Krisberg, 2012) reports that this type of gaming technology is also being used to deal with many other health issues, including tobacco cessation, mass vaccination, physical inactivity, health promotion, and chronic disease management and rehabilitation. "Games can influence everything from your attitudes about health to your perception of risk to your belief in your capability to take care of your own health, which is critical," said Debra Lieberman, director of the Health Games Research program at the University of California, Santa Barbara (Krisberg, 2012, p. 10).

Health Care Quality

The last major health care problem that requires immediate attention is the quality of health services received by many Americans. According to Schimpff (2012), although we spend 50 percent more on health care services than the next closest developed country, the quality of our health care is subpar and medical errors are epidemic. Torinus (2010) argues that there is no proven relationship between the price of health care services and the quality of those health services. In fact the opposite often seems to be the case, with lower price quite often indicating efficiency in production along with improved quality. That is, by producing large quantities of goods and services, a company or institution not only achieves economies of scale allowing it to lower prices, but it also becomes more productive in its processes, which allows it to actually improve quality.

Torinus (2010) further argues that although quality in health care is not what it should be in the United States, it can be improved if the country is willing to put in the necessary time and effort. Quality improvement can reduce costs, improve access, and improve health outcomes.

Another key indicator of diminished quality in the delivery of health care services is the rate of medical errors, errors that have become epidemic in the United States over the last decade. The Institute of Medicine (IOM)

defines a **medical error** as “the failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim.” Medical errors typically occur in operating rooms, emergency departments, and intensive care units. There is mounting evidence that entering the medical care system at any location increases a person’s risk of adverse drug events, errors in care delivery, and the development of hospital-acquired infections. Such errors are increasing the cost of health care delivery, requiring longer hospital stays, and causing disability, death, and a loss of trust in medical care. In fact the CDC now classifies medical errors as the eighth leading cause of death in the United States.

In 1999, the IOM released a study revealing that as many as 98,000 of the 33 million individuals hospitalized each year die and many more hospitalized patients receive secondary infections or incur other problems because of poor quality health care while hospitalized. According to Black and Miller (2008), the percentage of hospital admissions experiencing injury or death is between 2.9 and 3.7 percent. Ironically, many of the costs associated with medical errors are actually reimbursed by patients’ insurance companies.

Health care services are produced and delivered by people, and the improvement process must begin and end with these people. According to Black and Miller (2008), the solution to problems in delivering health care services will be found in the skills and ideas of the people who do the work of delivering health care services to patients. These service providers control the creative power so necessary for success in problem resolution. Unfortunately, health care institutions often pay little attention to these individuals. This lack of attention to medical errors will need to change as the health care system undergoes reform.

Because health care services are produced as needed rather than ahead of demand, they need to be produced error free each time. This makes medical error a *systems problem*. When a mistake is made in the delivery of a service, it is too late to correct the faulty delivery. It is very important, therefore, that systems be designed to prevent errors in the delivery of health care services before they are delivered. When mistakes are made, they must be evaluated and corrected immediately in order to prevent future occurrences. The results of this evaluation then need to be shared with all employees in order to prevent future problems.

In order to deal with these new demands, health care providers are beginning to realize that they are obligated to spend time focusing on delivering quality care and providing exceptional service to their customers. This will require employees who understand that it is the consumer who ultimately determines their success or failure as health care providers and also the success or failure of the health care system. Baldoni (2012) also

medical error

The failure of a planned action to be completed as intended or the use of a wrong plan to achieve an aim.

points out that the key to pleasing the consumer is for employees to understand their purpose. This means that health care employees must be in tune with the wants and needs of their consumers.

SUMMARY

The health care delivery system that was once the best in the world is in a crisis situation that threatens its very survival. The major health care problems causing this crisis revolve around escalating costs for health care services and poor access to and outcomes from the very services that are supposed to improve our health. The entire system of health care found in the United States is in need of tremendous reform. Our health care system seems to be plagued with high costs, access problems for many, and health levels lower than those in many other industrialized countries. Making matters worse, the United States is facing an epidemic of incurable chronic diseases and an epidemic of preventable medical errors.

Several countries offer all their citizens health care services that are less expensive than services in the United States and that result in improved health indices for these countries' entire populations. The critics of these health systems argue that they ration health care and that is why their costs are so much lower than costs in the United States. If that is the case, perhaps rationing some care may make sense if it improves health at the same time. As the United States moves through health care reform, it is very important that we look at how these countries deliver their health care and determine whether some of their approaches can be helpful to the United States.

Health care services delivery in the United States is going to change in a dramatic way in the next several years. This change is going to involve every health care organization and every person who works in the field of health services delivery. The new health care system that evolves from the change process is going to focus on health outcomes that can be produced at a price that everyone involved can afford.

KEY TERMS

comparative effectiveness

research (CER)

cost disease

disparate population

disruptive innovation

evidence-based medicine (EBM)

general access issues
 medical error
 moral hazard
 Patient Protection and Affordable
 Care Act of 2010 (ACA)
 reengineering
 special access issues

DISCUSSION QUESTIONS

1. Name the major problems in the health care industry as outlined by Victor Fuchs. What are some of the reasons for these problems? Are the problems Fuchs identifies the largest problems, or are they symptoms of even bigger problems?
2. How do other industrialized countries deal with cost escalation in health care delivery?
3. What are the reasons for the *cost disease* in the health services sector of the U.S. economy?
4. How is the development of new technology expected to help in the reduction of future health care costs?

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